

SECTION VI.—BIBLIOGRAPHY.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Professor in charge of Library.

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

Baden. Zentralbureau für Meteorologie und Hydrographie.

Niederschlagsbeobachtungen der meteorologischen Stationen im Grossherzogtum Baden. Jahrgang 1914. 1. Halbjahr. Karlsruhe. 1914. 25 p. 29 cm.

Berget, Alphonse.

Les problèmes de l'atmosphère. Paris. 1914. 2 p.l., 342 p. 18½ cm. (Bibliothèque de philosophie scientifique, dirigée par Gustave Le Bon.)

Berliner, B.

Der Einfluss von Klima, Wetter und Jahreszeit auf das Nerven- und Seelenleben, auf physiologischer Grundlage dargestellt. Wiesbaden. 1914. 3 p.l., 56 p. 26 cm.

Bureau international de l'Union télégraphique.

Statistique générale de la radiotélégraphie. Année 1913. Berne. 1915. 14 p. 30 cm.

Carpenter, Alfred, & Wilson-Barker, D.

Nature notes for ocean voyagers . . . with popular chapters on weather, waves, and legendary lore. London, etc. 1915. xvi, 181 p. 23 cm.

Deschmann, Rudolph.

Der Föhn in den Alpen. Seine Entstehung und seine meteorologischen Eigenschaften. [1914.] 42 p. 26 cm. (S.-A. aus dem 31. Jahresberichte des K. k. Carl Ludwig-Gymnasiums in Wien.)

Georgii, Walter.

Das Klima von Meiningen in den Jahren 1878–1911. Hildburghausen. 1914. 78 p. plates. 25 cm. (Schriften des Vereins für Sachsen-Meiningische Geschichte u. Landeskunde. 70. Heft.)

Handmann, R.

Wetterbüchlein. Wetterregeln und Wetterperioden, für Touristen zusammengestellt. Ausgabe Juli-September 1914. München. [1914.] 20 p. 15½ cm.

Hawes, Austin F.

The influence of forests on water storage and stream flow. (In Proceedings of the Vermont society of engineers, Northfield, Vt., March 12, 1914, p. 20–34.)

Hergesell, Hugo.

Das deutsche Observatorium in Spitzbergen. Beobachtungen und Ergebnisse. I. Strassburg. 1914. 3 p. l., 65 p. 8 pl. map. 26 cm. (Schriften der Wissenschaftlichen Gesellschaft in Strassburg. 21. Heft.)

Hill, Leonard [Erskine].

Report on ventilation and the effect of open air and wind on the respiratory metabolism. London. 1914. 46 p. plates. 24½ cm. (Great Britain. Local government board. Reports on public health and medical subjects, new ser., no. 100.)

Hooper, John K.

The rainfall in Vermont. (In Proceedings of the Vermont society of engineers, Northfield, Vt., March 12, 1914, p. 34–57.)

Johannsen, Heinrich.

Die Beherrschung des Wetters. Schönberg (Mecklb.). [1914.] 45 p. 22 cm.

Kaltenbrunner, Stefan.

Einführung in die neueste und leichte Wettervorherbestimmung, nach 30-jährigen genauen Aufzeichnungen der K. k. Wetterwarte in Wien. Linz. 1914. 34 p. plate. 19 cm.

Kazan. Observatoire météorologique de l'université.

Bulletin, 1914. [Russian text; Russian and French title-page.]

Kazan. 1914. 52 p. 2 diagr. 24 cm.

Observations, 1912. [Russian text; Russian and French title-page.] Kazan. 1914. 16 p. 23½ cm.

Kodaikanal and Madras observatories.

Annual report, 1914. Madras. 1915. 2 p. l., 23 p. 33½ cm.

Lühe, Paul.

Beziehungen zwischen Luft- und Meeresoberflächentemperatur in den dänischen Gewässern. [Leipzig. 1914.] 46 p. 24 cm. (Inaug.-Diss.—Berlin.) [S.-A. aus "Internationale Revue der gesamten Hydrobiologie und Hydrographie," Hydrographisches Supplement zu Band 7.]

Manikowske, Wallace.

Windmill electric lighting and power. Fargo, N. Dak. 1913. 39 p. 22 cm. (North Dakota. Agricultural experiment station. Bulletin no. 105.)

Meyer, Adolph F[rederick].

Computing run-off from rainfall and other physical data. 549–648 p. 23 cm. (Reprint: American society of civil engineers. Papers and discussions [1915].)

Graphs of meteorological and hydrological data. [Minneapolis. 1915.] 47 leaves. 23 cm.

Mississippi River Commission.

Stages of the Mississippi river and of its principal tributaries, for 1914. St. Louis. 1915. lxvi, 79 p. 23 cm.

Monte Rosa. Laboratorii scientifici "A. Mossio."

Atti. Vol. 4. Torino. 1914. viii, 338 p. 24 cm.

Neuhaus, E.

Die Wolken in Form, Färbung und Lage als lokale Wetterprognose. Zürich. 1914. 48 p. plates. 34 cm.

Ofia. Colegio máximo de la Compañía de Jesús.

Observaciones meteorológicas, [1914]. Ofia. 1915. unp. 23½ cm.

Prussia. K. preussisches meteorologisches Institut.

Bericht über die Tätigkeit, im Jahre 1914. Mit einem Anhang enthaltend wissenschaftliche Mitteilungen. Berlin. 1915. 54. (136) p. plate. 28½ cm. (Veröffentlichungen. Nr. 284.)

Ergebnisse der Niederschlags-Beobachtungen im Jahre 1913. Berlin. 1915. xxxiii, 156 p. plate. 34 cm. (Veröffentlichungen. Nr. 283.)

Ryd, V. H.

Bidrag til Bestemmelsen af meteorologiske Elementers Perioder. København. 1915. 4 p. l., 164 p. 25½ cm. [Thesis (Ph. D.)—Copenhagen.]

Sampaio Ferraz, J. de.

Instruções meteorológicas. (Trabalho destinado aos estacionários da rede meteorológica do Brasil.) Bruxelles, etc. 1914. 2 v. 24½ cm.

Sievert, Otto.

Wetterkundlicher Unterricht. Methodische Fingerzeige und stoffliche Handreichungen. Berlin. 1914. 56 p. 23 cm.

Staikoff, Staiko D.

Beiträge zur Klimatologie von Bulgarien. Temperaturverteilung. [Berlin. 1914.] 89 p. plate. 26 cm. (Inaug.-Diss.—Berlin.)

Toronto observatory.

Results of meteorological, seismological, and magnetical observations for the year 1913. Toronto. 1914. 47 p. 19½ cm.

Wengler, Fritz.

Die spezifische Dichte des Schnees. [Greifswald. 1914.] 86 p. 23 cm. (Inaug.-Diss.—Berlin.)

Wiedenhoff Siegfried.

Der tägliche Gang der Bewölkung in Japan. [Essen (Ruhr). 1914.] 111 p. plates. 23½ cm. (Inaug.-Diss.—Berlin.)

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH TALMAN, Professor in charge of Library.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely

to be of particular interest in connection with the work of the Weather Bureau.

Cairo scientific journal. Alexandria. v. 8. September, 1914.
Commissopoulos, N. A. Frequencies of cloud forms at Helwan, 1904-1913. p. 189-202.

Engineering news. New York. v. 73. February 11, 1915.
Fleming, R. Wind stresses in railroad bridges. p. 252-256.

London, Edinburgh and Dublin philosophical magazine. London. 6 ser. v. 29. 1915.
Pollock, J. A. The nature of the large ions in the air. p. 514-526. (April.)

King, Louis Vessot. On the precision measurement of air velocity by means of the linear hot-wire anemometer. p. 556-577. (April.)

Pollock, J. A. A new type of ion in the air. p. 636-646. (May.)
Nature. London. v. 95. 1915.

Hill, Leonard. Healthy atmospheres. p. 205-207. (Apr. 22.)
Pollock, J. A. The larger ions in the air. p. 286-288. (May 13.)

Royal astronomical society of Canada. Journal. Toronto. v. 9. April, 1915.

Steadworthy, A. Black lightning. p. 173-175.
Royal meteorological society. Quarterly journal. London. v. 41. April, 1915.

Craig, [James] Ireland. A see-saw of temperature between England and Egypt. p. 89-98.

Anderson, Valentine G. The influence of weather conditions upon the amounts of nitric acid and of nitrous acid in the rainfall at and near Melbourne, Australia. p. 99-122.

Geddes, A. E. M. Observations of the upper atmosphere at Aberdeen by means of pilot balloons. p. 123-135.

Mr. J. S. Harding. p. 162. [Obituary.]
Popular science monthly. New York. v. 86. May, 1915.

Grasty, J. Sharshall. The earthquake areas of the earth with special reference to the recent Italian earthquake. p. 446-451.

Scientific American. New York. v. 112. 1915.
[Banks, Charles E.] The barometer and health. p. 380. (Apr. 24.) [Reprinted from "Health News," issued by U. S. Public health service.]

Measuring atmospheric comfort. p. 431. (May 8.)
Scientific American supplement. New York. v. 79. 1915.

Pring, J. N. The formation of ozone in the upper atmosphere. p. 286-287; 303. (May 1, 8.) [Extracts from "Science Progress," Jan., 1915.]

U. S. Department of agriculture. Yearbook. Washington. 1914.
Thiessen, Alfred H. Story of the thermometer and its uses in agriculture. p. 157-166.

Yearbook of wireless telegraphy and telephony. London. 1915.
Lempert, R[udolf] G[uustav] K[arl]. The application of wireless telegraphy to meteorology. p. 622-627.

Académie Roumaine. Bulletin. Bucarest. 3 année. 1914/15.
Otetelișanu, Enric. La variation de la pression atmosphérique pendant l'éclipse solaire du 21 août. observée en Roumanie. p. 233-238. (Nr. 8.)

Minovici, St. & Grozea, E. Recherches sur l'air de la ville de Bucarest. p. 275-286. (Nr. 9.)

Académie des sciences. Comptes rendus. Paris. Tome 160. 15 février 1915.
Galitzine, B[oris]. Sur le tremblement de terre d'Italie du 13 janvier 1915. p. 247-250.

Archives des sciences physiques et naturelles. Genève. Tome 39. 15 mars 1915.

Schmid, F[riedrich]. Nouvelles observations sur la nature de la lumière zodiacale. p. 237-246. [Author believes the zodiacal light to be the reflection of solar light in a lens-shaped terrestrial atmosphere.]

Astronomie. Paris. 29 année. Mars 1915.
Paolis, Armand de. Le tremblement de terre de l'Italie centrale (13 janvier 1915). p. 99-108.

Entend-on le tonnerre en pleine mer? Plus grande distance à laquelle le tonnerre se fait entendre. p. 109-112.

Annalen der Hydrographie und maritimen Meteorologie. Berlin. 43. Jahrgang. Heft 4. 1915.

Wegener, Alfred. Neuere Forschungen auf dem Gebiet der Meteorologie und Geophysik. p. 159-168.

Schmidt, Wilhelm. Strahlung und Verdunstung an freien Wasserflächen; ein Beitrag zum Wärmehaushalt des Weltmeers und zum Wasserhaushalt der Erde. p. 169-178.

Meteorologische Zeitschrift. Braunschweig. Band 32. April, 1915.
Schwalbe, G[uustav]. Über Frühgewitter. p. 145-153.

Dorr, Josef. Szintillationsbeobachtungen auf dem Sonnwendstein (1907-1908). p. 153-167.

Defant, A[lfred]. Über das Energiespektrum der Sonne. p. 167-180.

Meteoreologische Zeitschrift—Continued.

Köppen, Wladimir. Monatliche Perioden in der Witterung. Hp. 180-185.

ann, Julius v. C. Braak, Über das Klima von (Holländisch-) Neu-Guinea. p. 185-186. [Abstract of memoir in Dutch by C. Braak.]

Mitteilungen aus den deutschen Schutzgebieten. Berlin. 28. Band. 1. Heft. 1915.

Schlücker, Bernhard. Beitrag zu den Regenverhältnissen im küstennahen Gebiete von Deutsch-Ostafrika. p. 1-41. [With rainfall chart.]

Heidke, P. Meteorologische Beobachtungen aus Togo. Teil V. Zusammenstellung der Monats- und Jahresmittel aus dem Jahre 1913 an 12 Beobachtungsstationen. p. 42-73.

Naturwissenschaften. Berlin. 3. Jahrgang. 1915.

Tams, Ernst. Über die Frequenz der Nachstöße starker Beben. p. 145-150. (12. März.)

Tams, Ernst. Das italienische Erdbeben vom 13. Januar 1915. p. 189-191. (9. April.)

Prometheus. Leipzig. Jahrgang 26. März 27, 1915.

Walter, B. Das Wesen der Kugelblitze. p. 408-410.

Prussia. Königlich preussisches meteorologisches Institut. Abhandlungen. Berlin. Band 5. Nr. 2. 1915.

Hellmann, Gustav. System der Hydrometeore. p. 1-27. [Author aims to present a complete enumeration of the forms of aqueous precipitation and to standardize the nomenclature.]

Geografia. Novara. anno 3. Gennaio-Febbraio 1915.

Magistris, Luigi Filippo de. Il terremoto marsicano del 13 gennaio 1915. p. 6-30.

NOTES FROM THE WEATHER BUREAU LIBRARY.

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A LIST OF METEOROLOGICAL ISOGRAMS.

The subject of the meteorological isograms was somewhat fully discussed by the present writer in the *Scientific American Supplement* of Nov. 12, 1910, and in that connection the writer presented a list of such named isograms as had come to his notice. Further search of meteorological literature, as well as the recent growth of the vocabulary, enables him to present herewith a much larger list and one that is believed to be nearly complete. The author will be glad to have his attention called to any that he has overlooked. The isograms of terrestrial magnetism, and many isograms that are of general application in physics and are therefore occasionally met with in meteorological diagrams (e. g., *isenergetic* and *isentropic*), lie beyond the scope of the present compilation.

The term *isogram* was suggested by Francis Galton in 1889¹ as a convenient generic designation for lines, on a chart or diagram, indicating equality of some physical condition or quantity. These lines are, of course, used in many sciences, but much the largest number of those to which particular names have been assigned belong to meteorology. In German such lines have sometimes been called *Isolinien*, or *Isarithmen* ("iso-lines" or "isarithms"). Dr. W. N. Shaw, in his "Forecasting Weather" (London, 1911), calls them *isopleths*, but the latter term has for years borne a more specific meaning in meteorology (as explained below), and its use in the same broad sense as *isogram* is to be regretted, as leaving the isopleth in the narrower sense without a distinctive name. As Hann says in his "Lehrbuch der Meteorologie" (3d ed., 1915, p. 91) the name *isopleth* is literally appropriate for any line connecting equal numerical values, but custom has limited its use to a particular class of such lines. Meteorological isograms have sometimes been known as *isometeoric lines*, and those used in climatology as *isoclimatic lines*.

¹ Nature, 40, 1889, p. 651.